



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/666,418

09/18/2003

Erik Lilliebjerg

NVID-P000635

7450

45594

7590

09/11/2009

NVIDIA C/O MURABITO, HAO & BARNES LLP

TWO NORTH MARKET STREET

THIRD FLOOR

SAN JOSE, CA 95113

EXAMINER

TO, JENNIFER N

ART UNIT

PAPER NUMBER

2195

MAIL DATE

DELIVERY MODE

09/11/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/666,418

Applicant(s)

LILLIEBJERG, ERIK

Examiner

JENNIFER N. TO

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-7, 9-14 and 16-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6, 7, 13, 14 and 16-23 is/are rejected.
- 7) ☐ Claim(s) 2-5, 9-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/07/2009 has been entered.
2. Claims 2-7, 9-14, and 16-23 are pending for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuki et al (hereafter Kuki) (U.S. Patent No. 5168566), and in view of Shi et al. (hereafter Shi) (U.S. Patent No. 6757897).
4. Shi was cited in the previous office action.

5. As per claim 21, Kuki teaches the invention substantially as claimed including a method of executing a plurality of tasks of different priority values (abstract), said method comprising:

utilizing preemptive multitasking and cooperative multitasking in execution of said tasks (col. 2, lines 63-65; col. 14, lines 6-10), wherein each task has a different priority values (col. 3, lines 43-46, col. 5, lines 1, 15-19);

before starting any of said tasks, selecting and striating execution of a fist task of said tasks, wherein said first task has highest priority value and is not depend on completion of any other of said tasks (col. 4, lines 15-27);

while said first tasks is executing, receiving a requests yielding from said first task (col. 4, lines 28-29, 38-39);

suspending execution of said first task (col. 4, lines 38-39); and

selecting a next task to execute, wherein said preemptive multitasking and said cooperative multitasking increase utilization of processing power of a processor and ensure higher priority valued tasks are executed with less interruption time than lower priority valued tasks (Kuki teaches utilizing preemptive multitasking and cooperative multitasking, and it is well know in the art that using preemptive and cooperative multitasking would increase utilization of processing power of a processor and ensure higher priority valued tasks are executed with less interruption time than lower priority valued tasks. Thus, ZKuki teaches this limitation).

6. Kuki did not specifically teach a yielding includes a particular waiting period and suspending execution of said task for duration of said particular waiting period.

7. However, Shi teaches a yielding includes a particular waiting period and suspending execution of said task for duration of said particular waiting period (col. 3, line 65 through col. 4, lines 16).

8. It would have been obvious to one of an ordinary skill in the art at the time the invention was made to have include the teaching of pre-setting the yielding with includes a particular waiting period and suspending execution of said task for duration of said particular waiting period as suggested by Shi into Kuki's system because both of the system addressing the need of controlling the execution of tasks based on the priority and by incorporating the teaching of Shi into Kuki would produced a system that capable of performing a plurality of tasks of varying priorities and allowing a task to yield time to one or more tasks thereby controlling task starvation (Shi, col. 3, lines 65-67; col. 4, lines 25-29).

9. As per claim 22, it is a computer-readable medium claim that corresponding to method claim 21. Therefore, it is rejected for the same reason as method claim 21 above.

10. Claims 6-7, 13-14, and 16-20, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuki et al (hereafter Kuki) (U.S. Patent No. 5168566), in view of Shi et al (hereafter Shi) (U.S. Patent No. 6757897), as applied in claims 21 and 22 above, and further in view of Abgrall (U.S. Patent No. 6401202).

11. Abgrall was cited in the previous office action.

12. As per claim 6, Kuki and Shi teach the invention substantially as claimed in claim 21 above. Kuki and Shi did not specifically teach tasks are BIOS initialized tasks.

13. However, Abgrall teaches tasks are BIOS initialized tasks (abstract; col. 1, lines 6-7; col. 2, lines 31-32; col. 11, lines 21-25).

14. It would have been obvious to one of an ordinary skill in the art at the time the invention was made to have combined the teaching of Kuki and Shi and Abgrall because Kuki and Shi suggested that the tasks can be any type of tasks in any type of computing device (Shi, col. 25, lines 2-3), and Abgrall teaching of tasks are BIOS initialized tasks would improved the integrity of Kuki and Shi's system by extending the usability of Shi's system into perform multitasking during BIOS boot-up (Abgrall, col. 1, lines 62-63).

15. As per claim 7, Abgrall teaches BIOS kernel receives said request for said particular waiting period (col. 11, lines 30-34).

16. As per claim 13-14, they are a computer-readable medium claims that corresponding to method claims 6-7. Therefore, it is rejected for the same reason as method claims 6-7 above.

17. As per claim 23, it is rejected for the same reason as claims 21 and 6 above.

18. As per claim 16, Kuki teaches wherein said selecting said task includes selecting higher priority values before selecting lower priority values when possible (col. 5, lines 15-17, 35-37, 60-67; col. 6, line 1).

19. As per claim 17, Kuki teaches that wherein said selecting said task includes if a first particular task cannot be executed until a second particular task has completed execution, enabling selection of said first particular task after said second particular task has completed execution (col. 14, lines 6-10).

20. As per claim 18, Shi further teaches a timer (col. 14, lines 40-42).

21. As per claim 19, Abgrall teaches wherein said BIOS includes a BIOS kernel for receiving requests for said particular waiting period from said initialized tasks (col. 11, lines 30-34).

22. As per claim 20, Abgrall further teaches a plurality of hardware components (fig. 2).

Allowable Subject Matter

23. Claims 2-5 and 9-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

24. Applicant's arguments with respect to claims 6-7, 13-14, and 16-23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see attached PTO 892 form for details).

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER N. TO whose telephone number is (571)272-7212. The examiner can normally be reached on M-T 6AM- 3:30 PM, F 6AM- 2:30 PM.

27. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

28. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/
Supervisory Patent Examiner, Art Unit 2195

/Jennifer To/
Patent Examiner, AU 2195